

IAEA Workshop on Innovative Approaches of Accelerator Science and Technology for Sustainable Heritage Management

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“Open SESAME for cultural heritage research and beyond”

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During the last two decades, a huge increase in the use of accelerators-based techniques is witnessed in a wide range of scientific applications such as physics, chemistry, biology, geology, environment, materials science, among others. Exhibiting a strong interest in the fields of archaeology and cultural heritage compared to laboratory-based source, they are commonly implemented to shed light on the methodologies of manufacturing, conservation, and/or restoration of different forms of heritage materials and objects. This presentation will highlight the accelerators' importance in heritage studies, with a focus on different examples of related research in the field conducted at the recently operational SESAME synchrotron facility. SESAME is the only synchrotron light facility in the Middle East. It aims at promoting advanced research capabilities and technology within its Members. Current Members are Cyprus, Egypt, Iran, Israel, Jordan, Pakistan, Palestine, and Turkey. A few examples of SESAME Users' first experiments on heritage science such as archaeological remains, historical parchments, and ancient mummies will be demonstrated together with the future opportunities and perceptions in the field of cultural heritage at SESAME.

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